257 The central agrarian section of Ukraine, on both banks of
311 the Dnipro, includes industries producing foodstuffs and luxuries, above all the sugar industry. There are also plants here for manufacturing leather and medium-heavy machinery. Factories are much smaller than in the coal and ore area and the many small power-stations run on brown coal and peat.

● 381 The Carpathian area is the home above all of the chemical
311 industry and the capacity of the power-stations, usually run by gas and expensive imported coal, seldom by the abundant water power available, exceeds 10 000 KW only in Lviv — Uzhhorod, being used principally for lighting the towns. Industrialisation is densest on the oil-fields of Drohobych.

371 In the foreland of the Caucasus electric plants are run by
311 petroleum only and water power is not exploited at all. The small factories (petroleum, tobacco, leather and machinery of medium weight) are too scattered to form an industrial area in the strict sense.

392 The large towns form industrial centers that are not dependent
311 on the presence of raw materials. Kharkiv has heavy engineering plants for transportation requirements, factories for agricultural machinery, electro-technical factories, and workshops for precision instruments and machinery. These are large enterprises, built recently and attached to big power-stations (Chuhujiv 25 000 KW), so that Kharkiv may be classed with the industrial area in the vicinity.

39 Kyiv builds ships and produces chemical and electro-technical
311 equipment and has chemical and textile plants as well as sugar and foodstuffs factories. In Odessa the same factories are represented and there are also canneries, leather works and plants for producing cinema installations. In addition, there are workshops that specialise in the structure of motor-cars and planes. In the other towns in the country enterprises for this or that industry have been established.

4: Allen H-4 (no date) 1941 RD1 Ukraine RD1

377 energy was not of urgent importance. Dnieprostroy supplies neighbouring towns and industrial plants with light and power (including the new 'Dniepr Electrical-Metallurgical Works' and the 'Dniepr Aluminium Works'), but the electrification of the railways of Soviet Ukraine has not yet been undertaken, nor does this appear necessary in view of the cheap supplies of fuel locally available.

397 As for machine and other mechanical works, there were in 392 existence before 1916: 'Hartmann's Locomotive Works' at Lugansk; 103 the more modern 'Kharkov Locomotive Works' and 'The Electro-Mechanical Works', also at Kharkov; and a series of smaller machine works (particularly for the manufacture of agricultural machinery) at Sumy, Alexandrovsk, Berdyansk, Odessa and Kiev. The Soviet Government considerably enlarged the 'Lugansk Locomotive Works', and recently machine and locomotive works have been in process of construction and subsequent enlargement at Kramatorskaya (in the Donets region). New 'Tractors' Construction Works' have been built in Kharkov. Machinery plants have been founded in Berdyansk and Cherkassy; the old Kiev and Alexandrovsk works have been enlarged; and new agricultural machinery works have been built in Elizavetgrad, Melitopol and Kherson. The shipbuilding works in Nikolaev continue to supply the Black Sea fleet as before the Revolution. There, during the last war, ships were in construction for the Imperial Navy; armour-plate being manufactured in the 'Nikopol-Mariupol Works'.

●381 Some progress has been made in the development of a chemical industry based on the abundant supplies of coal in Donbass. There are chemical processing plants at Slavyansk and Lisichansk, and near the railway stations of Gorlovka and Konstantinovka. The industry is still in the experimental stage, but Soviet 'Plans' envisage the supply of 30 per cent of the needs of the home market.

433 The Soviet emphasis on the development of Ukrainian heavy industry and a parallel neglect of the possible expansion of light industries has produced a badly balanced economy in Soviet Ukraine and the country remains dependent on other and often distant parts of the Union for the satisfaction of many of the needs of the people. Political considerations which aim at establishing the complete interdependence of the various parts of the Union are at the basis of the particular direction of the Five Year Plans in the Ukraine. The emigré Ukrainian economist, V. Sadovsky, writes: 'In 1934, 69·4 per cent of industry went to the production of materials and of the tools of production, and only 34·6 per cent for general needs. In this sense the relations existing in 1913 were

23: Shabad N-4 (no date) 1951 Rl Soviet Union Rl
Ukraine RDL

metropolitan areas of Moscow, Leningrad, and other industrial centers, as well as the entire southern rail network of the USSR west of the Volga and south of the Moscow coal basin. During the period of the German occupation of the Ukraine (1941–43), the coal mines suffered greatly. At present, reconstruction work is in full swing, mines are being reestablished, and it is hoped to have reached prewar production by the end of the post-war Five-Year Plan. The major coal-mining centers are Stalino, Yenakiyevo, Gorlovka, Kadiyevka, Chistyakovo, Krasnyy Luch, and Sverdlovsk. Anthracite, used principally for fuel, is mined in the eastern and the southern sections, while coking coal is produced in the western and the northern parts of the Donets Basin.

The giant iron and steel mills of the Ukraine lie mainly in the western part of the Donbas, that is, in the coke-supplying area, in the Krivoy Rog iron basin, and along the Dnieper between these two raw-material sources. Among the mills producing over one million tons of pig iron per year are modernized prerevolutionary plants at Makeyevka (Donbas), and at Dnepropetrovsk and at Dneprodzerzhinsk on the Dnieper and new plants at Krivoy Rog, Zaporozh'ye, and Zhdanov. The Azovstal' mills at Zhdanov use Kerch' (Crimea) iron ore, which is shipped across the Sea of Azov.

Machine construction has been developed to a very large extent in the Ukraine in recent years. Due to the close proximity of the sources of metal and in view of the lack of skilled local labor, the Ukraine was designed to produce types of machinery requiring little precision work, but large amounts of metal. Plants located in the Donbas specialize in heavy machine construction; among them, Kramatorsk produces coal-mining and steel-milling machinery, and Voroshilovgrad has a large locomotive works. Agricultural machinery plants are located along the Dnieper and on the right bank. Khar'kov possesses a large tractor plant and locomotive works and produces hydro-turbines and electric motors. There are car-building works at Nikolayev and Dnepropetrovsk, shipyards at Nikolayev, Kherson, and Kiev, and oil-drilling machinery is made in L'vov.

The industrial picture of the Ukraine includes a number of factors suitable for the establishment of a strong chemical industry: the by-products of coking and metallurgical processes, the presence of such important raw materials as salt and phosphorites, the availability of cheap energy produced by coal-fed (*Zugres* and *Shtergres*) or hydroelectric (*Dneproges*) power stations, and finally the need for chemical products

23: Shabad N-4 (no date) 1951 Rl Soviet Union Rl
Ukraine RD2

in agriculture (fertilizers) and in other branches of the economy. There are several superphosphate plants on the right bank, a large soda industry in the Artemovsk-Lisichansk area in the north of the Donets Basin, based on local salt deposits, chemical plants tied closely to the coking and the metallurgical establishments, and sulphuric acid and fertilizer plants connected with the metallurgy of zinc.

In addition to zinc, which is imported into the Donets Basin, nonferrous metallurgy includes that of aluminum, which is also imported and worked at Zaporozh'ye on the basis of *Dneproges* power, and of mercury, mined near Nikitovka in the Donbas.

The petroleum and natural-gas industry is of only local importance and is intended to supply the Ukraine with its gas and liquid fuel needs. The oil fields lie in the foothills of the Carpathians, near Borislav and Drogobych. During the current Plan, a natural gas pipe line was laid from Dashava (in the oil fields) to Kiev. The Ukraine also imports petroleum from Baku via the ports of Osipenko and Odessa, and the station of Trudovaya (Donbas) is the terminus of a kerosene pipe line from the Groznyy fields.

The textile industry (wool, cotton, and linen milling) supplies only local needs. The food industry, on the other hand, is of national importance. This is true especially of the sugar-refining industry, located mainly in the Vinnitsa and Kiev oblasts, on the right bank, and in the Poltava and Kiev oblasts, on the left bank.

The agriculture of the Ukrainian SSR, less important than heavy industry with respect to the value of production, occupies, nonetheless, a major position in the economy of the USSR. Arable land occupies 60 percent of the total area. Prior to the Second World War the Ukraine was one of the regions best equipped with machine-tractor stations and agricultural machinery. Among the cereals, winter wheat in the west, spring wheat in the east, and barley are most important. The sugar beet is by far the major industrial crop; sunflower, cotton, and tobacco are grown to a lesser extent. Orchard farming is popular and produces melons and pumpkins, garden fruits (apples, pears, plums, and cherries), and in the south, apricots and grapes. Horses, cattle, and pigs are raised throughout the region.

The right-bank Poles'ye is least developed agriculturally. Marshes and forests occupy most of the area. In the isolated patches of moist arable land, potatoes, buckwheat, flax, and hemp are the chief crops. The area abounds, however, in pasture land, and dairy farming is